



# Project Summary

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## Geographic Information System (GIS) in Cultural Resource Management

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**Objective:** To provide a management framework using GIS to identify, evaluate, and mitigate physical impacts to cultural resource sites affected by reservoir operations in the Columbia River system

### Approach:

A GIS for Dworshak Reservoir in Clearwater, Idaho, was developed by the Geotechnical Laboratory as a model to determine effects of processes, both man-made and geomorphic, to cultural resources. By identifying the impacts of these processes, the GIS can then be used for reservoir management to ensure preservation of historic and prehistoric sites. Specific objectives are to:

- ! Provide necessary information for developing site monitoring and protection plans for cultural resources
- ! Relate remote sensing techniques to cultural resource identification and protection
- ! Integrate remote sensing and GIS for more precise management of the reservoir
- ! Identify critical attributes to be monitored
- ! Develop a general methodology and array of techniques for monitoring critical attributes
- ! Provide specifications for implementing the monitoring program, along with a format for storing, analyzing, and reporting the results
- ! Develop procedures for addressing reservoir operation-related impacts to cultural resources applicable to broader regions



*Dworshak Reservoir, ID*

A geographic information system allows input, storage, manipulation, and analysis of spatially referenced data. The major analysis techniques involve the combination or linkage of data layers to analyze or display spatial queries.

The GIS for Dworshak Reservoir made use of aerial photography, existing maps, and field investigations and was designed to be generic in scope to account for geomorphic and cultural variability that may be expected to occur throughout the entire Columbia Basin.